

### **REMARKS**

Claims 1-34 are all the claims pending in the application. By this Amendment, claims 35-68 are cancelled without prejudice or disclaimer, and claims 1, 9, 21 and 24 are amended. In view of the foregoing amendments and following remarks, applicant respectfully requests withdrawal of the rejections and allowance of the claims.

#### **I. Formalities; Election**

Applicant thanks the Examiner for acknowledging receipt of the foreign priority documents and initialing the Information Disclosure Statement to indicate consideration of the references submitted therein.

Applicant also thanks the Examiner for the explanation provided with the making final of the restriction requirement, and the withdrawal of claims 5-7, 10-15 and 35-37. Accordingly, applicant has cancelled the claims of Groups II and III without prejudice or disclaimer with respect to their further prosecution in a divisional application.

Further, while the Examiner has not indicated the disposition of claims 58-68 in this Office Action, they are also cancelled due to their previous inclusion in non-elected Group II. Applicant respectfully requests clarification as to their status.

However, applicant has not cancelled claims 5-7 and 10-15 of Group I due to their dependence from generic claim 1. Further, Applicant requests rejoinder with respect to claims 5-7 and 10-15 upon the allowance of independent claim 1.

#### **II. Allowable Subject Matter**

Applicant thanks the Examiner for indicating the allowability of claims 9, 21-22, 24, and 32-34, pending amendment. The amendment of claim 24 has been made in accordance with the Examiner's explanation. Further, claims 9 and 21 have been rewritten in independent form and include the amendments requested by the Examiner, and should thus be allowed.

Additionally, applicant respectfully submits that the claims which depend from the allowed claims should also be allowed. For example, claims 25-31 all depend either directly or indirectly from allowed claim 21 (by way of allowed claim 22). Thus, applicant respectfully submits that those claims should also be indicated as allowed.

### **III. Claims 1-4, 16-19, 25-26 and 30 are not anticipated**

Claims 1-4, 16-19, 25-26 and 30 stand rejected under 35 USC 102(b) due to alleged anticipation over Deguchi based on its publication date of September 17, 2002. As shown in the foregoing amendments, applicant has amended claim 1 in a manner that appears to replace the functional language with structural language, as explained by the Examiner.

As explained above, claims 25-26 and 30 depend either directly or indirectly from allowable (now in condition to be allowed) claims 21 and 22. Thus, applicant respectfully submits that those dependent claims should also be indicated as allowed. Accordingly, the following arguments with respect to the cited art under §102 are directed to claims 1-4 and 16-19.

The presently claimed invention is directed to an optical transmission system having a first supervisory unit associated with a device along an optical link. The first supervisory unit generates a first supervisory signal. The foregoing low-frequency modulator is coupled to a

modulator that can superimpose the first supervisory signal on the first optical signal, which is sent from a terminal station. The modulator is not the pump source.

Additionally, a pump source is provided along the optical link, and is configured to send a pump radiation on the optical link in a second direction, which is opposite of the first direction, and also cause Raman amplification of the first optical signal as well as the first supervisory signal, which is superimposed on the first optical signal, as mentioned above.

Deguchi discloses a method, device and system for evaluating characteristics of an optical fiber transmission line. A pumping source supplies pump light to an optical transmission fiber line, so that at least part of the optical fiber transmission line produces Raman amplification to the optical signal (see Abstract). As illustrated in FIG. 3, a filter unit 24 is provided between an input 2 and an output 4, and a control circuit 16 regenerates the supervisory signal. Further, a laser diode 12 is provided as a pump source, and the output is supplied to the erbium doped fiber (EDF) 8, where Raman amplification occurs. Further, column 6, lines 32-38 of Deguchi disclose that the pump light may be intensity-modulated so that it is output from the laser diode 12 according to the updated supervisory signal, to thereby modulate the gain generated in the EDF 8 and superimpose the updated supervisory signal on the main signal.

More specifically, Deguchi discloses “intensity-modulating the pump light to be output from the laser diode 12 according to the updated supervisory signal to thereby modulate the gain generated in the EDF 8 and superimpose the updated supervisory signal on the main signal” at column 6, lines 34-38. Applicant respectfully submits that the pump source which is counter-propagating is thus gain-modulated in order for the supervisory signal to be superimposed thereon. The presently claimed invention teaches away from the foregoing disclosure at page 6

lines 25-29 of the present application, where "problem" b is described as a drawback of the related art. Applicant respectfully directs the Examiner to the following sentence of the specification: "However, the counter-propagating Raman amplifiers may hardly be gain-modulated in order to provide such supervisory signals by superposition on the signal light."). To overcome this related art problem, the presently claimed invention proposes the use of a modulator "other than the pump source for Raman amplification" (description, page 7 line 3).

Applicant respectfully submits that Deguchi fails to disclose that the modulator is not the pump source, as recited in independent claim 1. More specifically, Deguchi does not disclose any structure that provides a further explanation of how modulation is performed. Applicant respectfully submits that Deguchi appears to be performing modulation at the pump source, which is distinguishable from the presently claimed invention. For at least these reasons, applicant respectfully submits that Deguchi does not disclose all of the claimed combination of features recited in independent claim 1.

Dependent claims 2-4, 16-19, 25-26 and 30 depend from independent claim 1. Applicant respectfully submits that these dependent claims are allowable for at least the same reasons as independent claim 1, from which they depend. Additionally, as noted above, dependent claims 25-26 and 30 should be allowed due to their dependence from allowable claim 21, which is in condition to be allowed as explained above.

**IV. Claims 8, 20, 23, 27-29 and 31 would not have been obvious**

Claims 8, 20, 23, 27-29 and 31 stand rejected under 35 USC 103(a) due to alleged obviousness over Deguchi in view of Seikya (U.S. Patent No. 6,839,162, filed on September 10,

2001). Applicant respectfully submits that the Examiner's proposed combination of references fails to disclose or suggest all of the claimed combination of features recited in these claims.

As explained above, claims 27-29 and 31 depend either directly or indirectly from allowable (now amended to be allowed) claim 21, and thus, applicant respectfully submits that those claims should also be indicated as allowed.

Additionally, claims 8, 20 and 23 as well as claims 27-29 and 31 depend from independent claim 1. Applicant respectfully submits that these claims are allowable for at least the same reasons as discussed above by applicant with respect to independent claim 1, from which they depend.

Thus, applicant respectfully requests withdrawal of the rejections, and allowance of these claims.

#### **V. The Double Patenting Rejection**

Claim 16 stands rejected due to alleged obviousness type double patenting in view of U.S. application no. 10/500,036. Claim 16 is a dependent claim, which depends from independent claim 1. As independent claim 1 is not the subject of the double patenting rejection, and is believed to be allowable for at least the reasons discussed above with respect to Deguchi, applicant respectfully submits that dependent claim 16 is also allowable, at least by virtue of its dependency from independent claim 1.

In view of the foregoing, applicant respectfully submits that it is not necessary to submit a Terminal Disclaimer at this time. However, applicant reserves the right to submit such a Terminal Disclaimer in the future, should such a submission become necessary.

Accordingly, applicant respectfully requests withdrawal of the double patenting rejection, and allowance of claim 16.

**VI. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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